







Piloted Counterbore M4 Ø8 Z3

A06-330

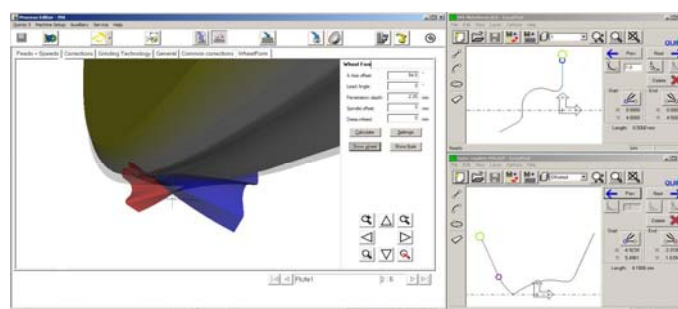
In manufacturing piloted counterbores a formwheel is used for the flute operation. In one pass the complete toothform is created, leaving the necessary land width on O.D. The pilot is ground with a 1A1 wheel which pregrinds in spiral increment and finishes oscillating at higher rpm's. The required wheelform for fluting is automatically generated in Quinto, and its form is regenerated on an adequate dressing unit.



1. Cycletime for Production

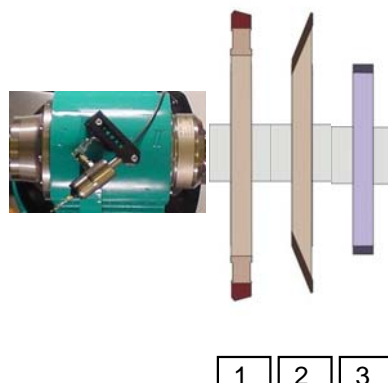
Workpiece: Ø 8 mm, Z 3, Length 28 mm, Helix 24° Material HSS			
Operations			
	Flute 1	End 1	Prf Cyl
Feed [mm/Min]	150	120	30
Power [kW]	3	1	1
Cutting feed [m/s]	42	42	42
Used wheels			
	1	2	3
Grinding time [s]	88	50	62
Total cycle time	3 Min 19		

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.



2. Used Grinding Wheels

1	DXF Ø200 B126
2	1V1 Ø200 B126
3	1A1 Ø175 B126



3. Machine and Software Requirements

Machines: 5 axes CNC grinders : GEMINI DMR
Control: Fanuc 31i
Accessories: STL6051, Dresser
Responsible engineer: OP. 9.2.10

Coolant: Synthetic Oil, pressure 16 bar
Software: Quinto 5

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J. SCHNEEBERGER Maschinen AG 4914 Roggwil Switzerland
Subsidiaries in: France, Deutschland, Italia, United States, China